ARTIFICIAL INTELLIGENCE AND THE FANTASY BINOMIAL: CREATIVE FAIRY TALE WRITING (BASED ON GIANNI RODARI) IN SECOND GRADE

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Abstract: The report presents an innovative pedagogical practice that utilizes artificial intelligence (AI) and the fantasy binomial method to develop creative thinking in second-grade students. By integrating AI into primary education, teachers can employ new tools for content creation, stimulating creative thinking, writing, and the learning process. In the described practice, students create fairy tales with the help of ChatGPT, allowing them to express their ideas and imagination. The fantasy binomial method generates unexpected word combinations, activating the imagination and provoking the creation of original stories by linking seemingly unrelated concepts. This technique encourages students to perceive the world in a more unconventional way, fostering their creativity and problem-solving skills. The combination of artificial intelligence (AI) and traditional educational methods offers students the opportunity to participate more actively in the learning process. Through this approach, they develop cognitive abilities by interacting with technology in a meaningful way. ChatGPT helps students enhance their storytelling skills by providing suggestions and feedback that stimulate their thinking and exploration processes. The fantasy binomial method, in turn, acts as a trigger for the imagination, challenging students to think creatively and beyond conventional boundaries. This improves their ability to generate original ideas and enhances their storytelling skills. Teachers play a key role in guiding students as they use AI-powered tools, ensuring that the learning process remains balanced between technology and personal input. The practice encourages collaborative learning, where both artificial intelligence and human input contribute to creating something unique and original. The dynamic interaction between students and AI helps build confidence in their writing abilities while also sparking greater interest in the learning process. Additionally, the use of AI offers opportunities for personalized feedback, supporting differentiated learning for students with specific needs and abilities. Along with fostering creativity, this method promotes the development of critical thinking and language skills. The application of artificial intelligence (AI) in the classroom leads to dynamic lessons, where students can interact with technology in real time, gaining new insights and refining their knowledge and skills. Teachers implementing this method provide a new way to engage students, keeping them motivated and curious. The introduction of technology creates a learning environment that prepares students for advancements in the digital age, teaching them how to integrate AI tools into problem-solving processes. The report highlights that the integration of artificial intelligence (AI) not only improves learning outcomes but also makes the learning process more enjoyable for both students and teachers. Results from conducted surveys show a positive reception of the innovative methodology, with students demonstrating increased enthusiasm for writing fairy tales. The described best practice offers an opportunity for further exploration of AI integration in education to enrich the learning process. According to the authors, this approach holds potential for application across various subjects to enhance the quality of primary education, making it more engaging and effective.
Keywords: Artificial intelligence (AI), fantasy binomial, primary education, Gianni Rodari

1. INTRODUCTION

In the context of rapid technological development and digitalization, the modern educational system presents educators with the challenge of finding new approaches to engage and motivate students in the classroom. One of the main priorities of the educational process today is to foster creative and critical thinking from the early stages of education. In this regard, artificial intelligence (AI) offers new opportunities for integrating innovative tools into the classroom, which can support the development of students' creativity. This article examines the application of AI and the fantasy binomial method, developed by Gianni Rodari, in the process of creative fairy tale writing in second grade. By generating word combinations from two unrelated words, this approach activates students' imagination and encourages them to create original and engaging texts, while also using new technologies to enrich the learning process. The combination of classic pedagogical methods, such as the fantasy binomial, with modern AI technologies, helps students develop not only their creative thinking but also their teamwork skills and ability to critically evaluate content.

2. ARTIFICIAL INTELLIGENCE IN THE CLASSROOM

Artificial intelligence (AI) is a multidisciplinary field that combines elements from computer science, mathematics, linguistics, psychology, and neuroscience. Its primary goal is to create systems capable of performing tasks that require intellectual abilities similar to those of humans, such as image recognition, decision-making, and natural language understanding. In recent years, „artificial intelligence (AI) has increasingly been applied in educational institutions, leading to significant transformations in teaching and learning practices“ (Dimitrova & Donev, 2024). AI technologies offer opportunities for personalizing the learning process, enhancing academic performance, and optimizing administrative tasks. By automating routine activities, AI can provide substantial support to educators, allowing them to focus on critical aspects of teaching and student engagement. The integration of AI in education presents an opportunity to transform traditional methods of teaching and learning. „However, there are also several challenges related to ethical issues, data privacy, and the need for teachers and students to adapt to new technologies“ (Papancheva et al., 2024).

Today, the rapid development and accessibility of artificial intelligence (AI) technologies allow educators to integrate these tools into their teaching activities. According to guidelines from the Ministry of Education, the successful implementation of AI in education requires careful planning, ethical approaches, and maintaining human involvement in the learning process (https://www.mon.bg/news/mon-s-nasoki-za-poveche-informiranost-na-uchitelite-pri-izpolzvane-na-izkustven-intelekt). AI has the potential to transform perceptions of education, offering new and more effective teaching methods that adapt to the individual needs of each student. ChatGPT is an AI-powered chatbot based on a language model created by OpenAI (https://chat.openai.com). „He can communicate with a person—understanding questions, the context of a given text, and responding accordingly. He is capable of analyzing and combining information from various sources to construct complete and accurate answers“ (Ivanova et al., 2024). ChatGPT can be used for various tasks such as translation, text generation, summarization, answering questions, generating code, error detection, and more. „Prompt generators demonstrate how technologies can support and stimulate the creative process, providing teachers with tools to expand their horizons and create unique and engaging educational content“ (Garov and Dobrev, 2024). An intriguing application is the ability to create story content using Gianni Rodari's fantasy binomial technique.

3. THE FANTASY BINOMIAL TECHNIQUE

In his „Grammar of Fantasy“, Gianni Rodari describes how to create written narrative texts—fairy tales—and how to help children compose them on their own. As Rodari himself writes about his book, „Here, we talk about some of the ways to create stories for children and how to help children invent their own fairy tales“ (Rodari, 2015). One of the techniques for provoking children's imagination and creativity is the fantasy binomial. Rodari believes that fantastic themes arise from what he calls the fantasy binomial: „a combination of two concepts that reveal new semantic possibilities“. Two completely incompatible words give rise to a title, provoke associations, and allow for the creation of whimsical stories. The story created using the fantasy binomial is built upon the semantic incongruity between the two words (wholes) and the abstractness of combining their meanings. The careful selection of words is of significant importance. A primary criterion in their choice is their lexical meaning. These can be unrelated words, words from different categories (objects, animals, emotions, natural phenomena, etc.), opposite or contrasting words, or funny or unexpected combinations of words. The most suitable approach is to construct the binomial „based on the principle of randomness—two children independently come up with one word each“ (Todorova, 2024) or select from a pile of cards depicting randomly chosen objects. The subsequent combination of the words and the creation of the story title is important. This can be done using prepositions, conjunctions, and pronouns to form an appropriate phrase, or the words can be combined into a sentence. The development of children's imagination stimulates their cognitive abilities. When they create their own fairy tales, they learn to think critically, connect ideas, and develop abstract thinking. Fostering imagination encourages creative thinking. It provides students with pure enjoyment, teaches them to be flexible and adaptive, and allows them to both express and understand their emotions. When students write and tell stories, they develop their language skills, enrich their vocabulary, learn to structure sentences, and express complex ideas meaningfully. Storytelling also stimulates their ability to communicate effectively.

4. SYNERGY BETWEEN THE FANTASY BINOMIAL TECHNIQUE AND AI TECHNOLOGIES IN THE CLASSROOM (DESCRIPTION OF GOOD PRACTICE)

The pedagogical practice took place at the „Cyril and Methodius“ Secondary School in the village of Nova Mahala, municipality of Batak, Pazardzhik region, during the 2024/2025 academic year. It involved 20 second-grade students, divided into 5 teams, 5 teachers, and two sixth-grade students as mentors. The challenge faced by the students and teachers is to explore the potential of using AI in creative processes such as creating fairy tales and

stories. The pedagogical practice also aims to seek an answer to the question of whether one of the inspiring approaches for developing imagination by the Italian writer Gianni Rodari—the „fantasy binomial"—can be integrated with AI (ChatGPT) in an innovative lesson with second graders.

The objectives of the lesson are:

- To become familiar with the capabilities of ChatGPT for creating text and images.
- To reinforce students' reading and comprehension skills.
- To develop critical thinking regarding text created by artificial intelligence.
- To apply students' teamwork skills and stimulate their creativity.

For the implementation of the lesson, the following are provided: one laptop for each of the five teams, access to a platform for working with ChatGPT, notebooks and pencils for recording ideas, and a presentation on the topic „Introduction to AI through Creative Storytelling in Second Grade - Fairy Tales Using Gianni Rodari's Fantasy Binomial". The lesson begins with a discussion with the students aimed at determining whether they know the meaning of the word „intellect" and how they understand the phrase „artificial intelligence". The teacher seeks to create a friendly atmosphere in which students are informally introduced to the topic of technology and its use, providing examples from everyday life. Without delving into complex technical details and using examples that children can see or imagine, their knowledge about artificial intelligence is summarized. The teacher presents the thesis that artificial intelligence is a „brain for computers and robots" that helps these devices „think and learn". She/He provides examples with toy robots. The second graders share their experiences with technology (personal computers, laptops, tablets, mobile phones). The pre-prepared presentation by the teacher in „Canva" aims to appropriately visualize educational content regarding the application of artificial intelligence in various fields, including household management, medicine, and space exploration. A parallel is drawn between human intelligence (creative and emotional) and artificial intelligence, which is trained solely on the information provided to it and cannot experience feelings. The lesson continues with answers to the question: „Can artificial intelligence assist in the learning process?" and with an introduction to the possibilities of working with artificial intelligence through the ChatGPT chatbot. ChatGPT is presented to the students as a smart robot that knows a lot and enjoys talking to people, using its knowledge to answer questions and assist students in their studies. The students understand that this robot does not see, hear, or feel, but it can understand the text they write, answer the questions posed to it, and this is all thanks to the people who trained it. During the lesson, the second graders practically get to know ChatGPT by asking it a variety of questions. Based on the quick and accurate answers, they conclude that ChatGPT is a fun conversationalist and a reliable source of information on various topics. The ideas and suggestions that ChatGPT offers for making ice cream elicit particularly emotional reactions. Afterward, the teacher shifts the students' attention to the Italian writer Gianni Rodari and the method of the „fantasy binomial", where two seemingly incompatible words, combined in a suitable title, provoke imagination and create an interesting and entertaining connection between them, resulting in a unique and original story. It is noteworthy that there are no wrong ideas or wrong words; every combination is an opportunity to create creative and imaginative stories. Applying this method during the lesson, the words „whale" and „balloon" are chosen to create a fairy tale. The teacher invites the students to ask ChatGPT additional questions (prompts). In this way, the students unknowingly further develop the plot, invent, imagine, and experience the story. The climax of the lesson occurs when the students, with the help of ChatGPT, create an image of a whale flying with a balloon over islands, ships, and clouds. The students are impressed by the remarkable speed at which the image is generated, the color composition, and the accuracy of the elements in the image relative to the text provided to the chatbot. The lesson continues with the students working independently in the following sequence:

- The students are divided into 5 teams. Three teachers and two sixth-grade students join the teams as mentors.
- The students access ChatGPT using five pre-created accounts.
- The students come up with two words and combine them into a title (following Gianni Rodari's fantasy binomial).
- Each team asks ChatGPT: "Please write me a fairy tale using the words ... and ..., following Gianni Rodari's fantasy binomial, in up to 6 sentences!"
- The teams read the fairy tales created by the chatbot, identify the characters, their actions, the plot of the story, and the beginning and end of the fairy tale. The teams discuss and decide whether to change or keep the fairy tale or episodes from it.
- The teams choose one character from their fairy tale and write a brief description of 3 or 4 sentences.
- They create an image of the chosen character or characters from the fairy tale using ChatGPT, copy it, and prepare it for printing.

- The texts of the fairy tales are read by the teams and presented to the class. The illustrations created with ChatGPT are prepared for printing and printed out.
- The collected and printed fairy tales and images are compiled into a book (both paper and electronic), and a cover image is created with ChatGPT titled „Wonderland".

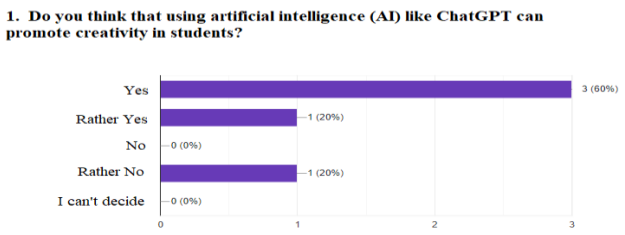
In the summarizing part and motivating conclusion of the lesson, the following sequence is followed:

- Each team presents their fairy tale, explaining how artificial intelligence helped them create it.
- The teacher encourages the children to comment on the fairy tales of other teams to develop their communication and social skills.
- The teams self-evaluate their work during the lesson and respond to the question: „Is it interesting to use ChatGPT?"
- The teacher summarizes the activities from the lesson and congratulates the students on the final project products they created.

5. RESULTS AND SURVEY ANALYSIS

The first survey from the study is intended for the teachers who attended the lesson. There are 5 teachers, all female, aged between 36 and 45 years, with between 10 and 15 years of teaching experience. The analysis of the results for Question No. 1 from the survey showed that nearly all teachers (80%) believe that the use of artificial intelligence (AI) like ChatGPT can encourage creativity in students. The data is presented in Fig. 1.

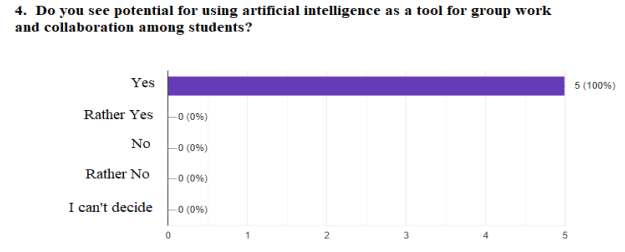
Fig. 1. Teachers' attitudes towards the potential of artificial intelligence (AI) to promote creativity in students



Source: researched by the authors

In response to Questions 2 and 3 of the survey, all teachers gave positive answers regarding the ease with which students work on creating fairy tales with the help of artificial intelligence, unanimously supporting the integration of artificial intelligence into the educational process to aid in developing critical thinking skills. All surveyed teachers indicated that they see potential in using artificial intelligence as a tool for group work and collaboration among students (Fig. 2).

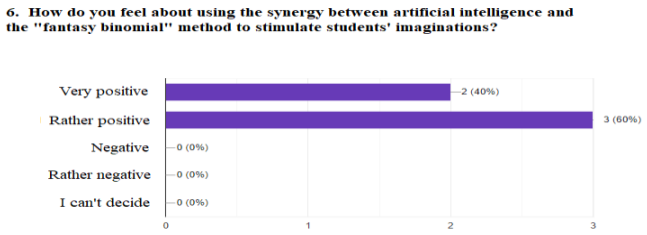
Fig. 2. Assessment of the existing potential of artificial intelligence as a tool for group work and collaboration



Source: researched by the authors

Teachers also gave positive responses (100%) to Question No. 5 of the survey: „Would you use artificial intelligence in your lessons to stimulate students' creative thinking?". In response to the final question, all teachers participating in the survey positively assessed the synergy between artificial intelligence and the fantasy binomial for stimulating students' imagination. The data is presented in Fig. 3.

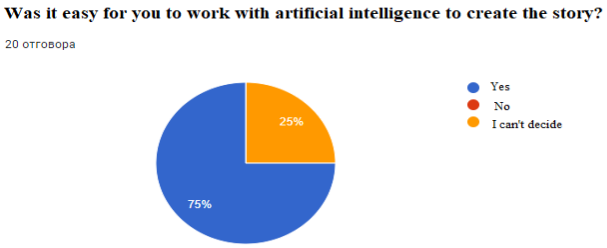
Fig. 3. Assessment of the synergy between artificial intelligence and the fantasy binomial for stimulating students' imagination



Source: researched by the authors

In the second survey of the study, 20 second-grade students responded, consisting of 10 girls and 10 boys. The analysis of the results showed that 95% of the surveyed second-graders enjoy working with artificial intelligence (ChatGPT) for creating stories, feeling that the AI helps them come up with more interesting and fun ideas for their narratives, and that they want to use artificial intelligence again to create stories or other tales. All students (100%) believe that artificial intelligence has helped them make their stories more interesting. In response to question №4 from the survey: „Was it easy for you to work with artificial intelligence to create the story?“, 15 students (75%) answered positively, while 5 students (25%) could not assess. The data is presented in figure 4.

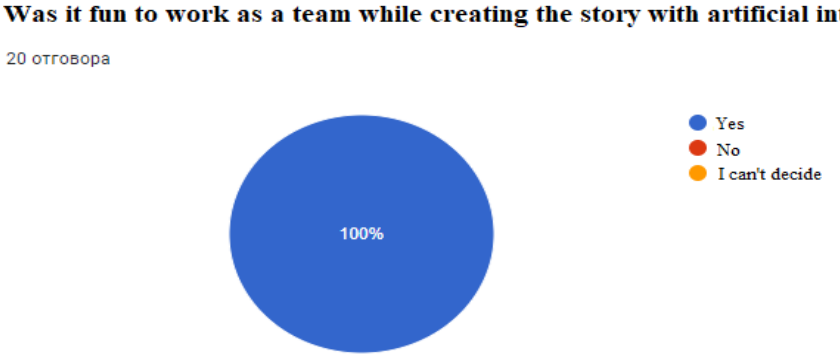
Fig. 4. Assessment of the ease of working with artificial intelligence for creating a story



Source: researched by the authors

All surveyed second-graders indicated that they enjoyed working in teams while creating the story with artificial intelligence. The obtained data is illustrated in Fig. 5.

Fig. 5. Assessment of the ease of working with artificial intelligence for creating a story.



Source: researched by the authors

6. CONCLUSIONS AND SUMMARY

When students are placed in an appropriate environment and under conditions that require them to use their imagination, several important skills and qualities develop in them that are key to their personal and intellectual growth:

- Creative and innovative thinking: Imagination stimulates creativity. Students learn to create new stories and images and find solutions to problems through new ideas. Imagination encourages students to see things differently and expand the boundaries of what is possible. When they imagine, they can create their own worlds and rules, stepping outside conventional limits.
- Emotional intelligence: Imagination allows students to take on different roles, experience emotions, and understand the perspectives of other people or characters. This fosters the development of empathy and awareness of various emotions, which is a key aspect of emotional intelligence.
- Self-expression: When students engage in imagination, they can express their thoughts, feelings, and desires in different ways. This encourages their independence, which is important for their personal development.
- Problem-solving: Imagination often involves creating different situations or worlds where students need to find solutions to specific problems, thereby preparing them for real-life challenges.
- Development of language skills: Imagination encourages students to express their ideas in words, improving their speaking and writing abilities. They enrich their vocabulary, learn to structure their thoughts, and create both logical and creative narratives.
- Motivation and curiosity: Imagination stimulates students' curiosity, prompting them to explore new ideas and possibilities, influencing their interest and motivation to work.

Despite the numerous benefits associated with integrating the method of the fantasy binom with artificial intelligence, it is also necessary to highlight the ethical aspects. One of the main ethical considerations is authorship. The question that requires an answer is, „Who is the author of the work when artificial intelligence has participated in the creation process?“.

The synergy between the fantasy binom method and AI can be realized in the classroom by using AI models trained on large amounts of textual data, including literary works. By introducing two elements, AI can generate new combinations that could be developed into stories, narrative texts—fairy tales, poetry, scripts, and more. By combining Rodari's „fantasy binom“ with artificial intelligence, imagination can be stimulated, the boundaries of creativity can be expanded, and new opportunities for learning, development, and future realization of students in today's digital society can be created.

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